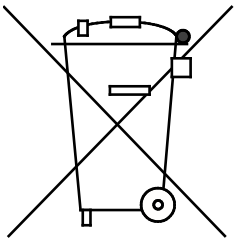
Dantherm®
CONTROL YOUR CLIMATE

HRC 2

User manual
Rev. 1.1
en

Dantherm®
CONTROL YOUR CLIMATE



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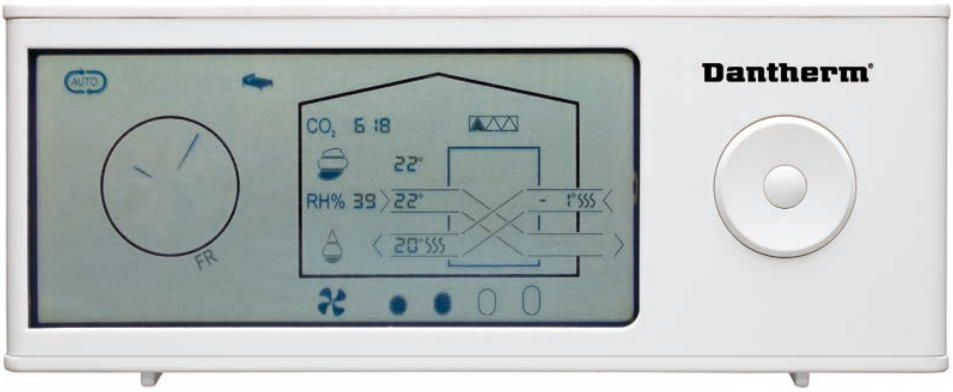

General description

Introduction

This remote control is designed for the particular and considerate houseowner, who is especially keen to provide a pleasant indoor climate in his house and to its occupants. The remote control communicates wireless with the control panel of the ventilation unit up to a range of 30 meter through walls and lightweight floors.
The remote control can be placed on the shelves or it can be hung on the wall in the kitchen or in the sitting room. Hereby the occupants of the house can look after the indoor comfort and easily adjust the mode of operation if necessary.

Functions

The following functions can be controlled/activated with the remote control:

- Automatic demand-control based on relative humidity, or CO_2 (accessory)
- Manual operation
- Week program mode
- Away mode
- Night mode
- Temperature control - heat, (only possible with after heating coil which is an optional accessory)
- Temperature control - BYPASS-COOLING, by means of built-in bypass
- Adjust filter change intervals

On the remote control the user can read off the following:

- Fan step
- Outdoor temperature, supply air temperature (into the house), exhaust air temperature (from the house) and room air temperature (measured in the remote control)
- Day of the week and hour
- Relative humidity in the exhaust air duct (the humidity of the house)
- CO_2 level in the house (only possible with an extra CO_2 sensor which is an optional accessory)
- Remaining filter time
- Alarms + acoustic beeper

Installation

Pairing

The remote control has to be paired with the ventilation unit before use. Follow the procedure below to pair the wireless remote control with the ventilation unit: (communication is between the control panel (HCP4) and the remote control (HRC2))

Step	Action
1	Disconnect the power to the ventilation unit
2	Open the battery lid on the remote control and insert the batteries (2 x AAA) which are included with the remote control.
3	If you want a fixed power supply you can connect a mini-USB cable with power supply (accessory). The mini USB-plug is situated behind the battery door on the back of the remote control.
4	Reconnect the power to the unit. The unit and the remote control now try to connect with each other for the next 60 seconds and when connection is made, data from the unit are shown on the display.

If pairing is not successful the first time (display shows E13), this maybe because the distance between the remote control and the unit control panel (HCP4) is too big, or the remote control has already been paired with another ventilation unit. In that case, reset the remote control by pressing down the LEFT part of the navigation key for 10 sec., until all icons are flashing. Then a new pairing can start.

Several remote controls

It is possible to connect up to 5 remote controls to one ventilation unit. All connected remote controls are equal. This means that the latest change of operation or setpoints overrules the previous change, if any.

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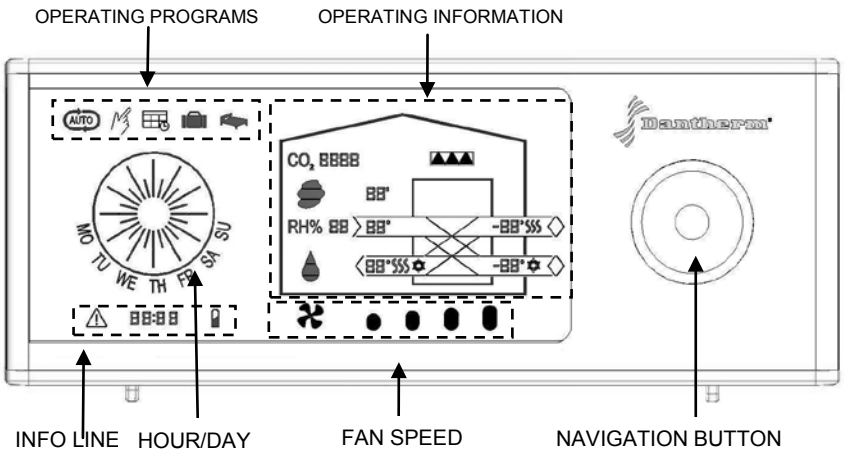
Display information

Display overview



Display description

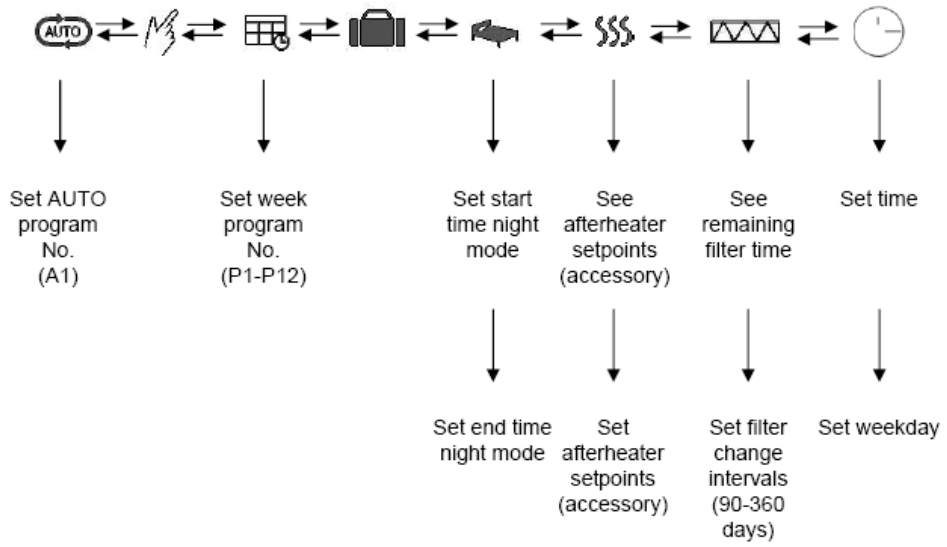
The following table describes the symbols and buttons on the remote control.
The remote control has an energy saving function which switches off the display between 23:00 and 7:00. It can, however, be switched on by pressing one button.

Display area	Function
Operating programs	Automatic operation/demand-control Manual operation mode Week program mode Away mode Night mode
Hour / Day	The clock is used to control week program mode and night mode.
Info line	Alarm Information about various functions and programs Battery low
Fan step	Four oval fields indicating current fan speed
Navigation button	The button is used to activate the user menu, navigate between menu points, and reduce or increase values.
Operating instructions	Shows information about: • Filter change • Room temperature • Supply/extract air temperature • Outdoor temperature • Relative humidity in the extract air from the house • CO_2 level in the air (accessory) • Heat recovery / bypass-cooling

User menu

User menus

In the USER MENU you will find the following operating programs and operating info:



Navigation button

Button	Function
	Activates the user menu, a menu point or confirms settings by pressing the CENTER button.
	Navigates between menu points by pressing LEFT or RIGHT on the navigation button.
	Reduces or increases values by pushing UP or DOWN on the navigation button.

Short cuts

Button	Function
	Press CENTER for 3 seconds = back to start, leave all menus
	Press DOWN for 5 seconds = activate/deactivate bypass-cooling for 6 hours (BYP6)
	Press UP for 5 seconds = activate/deactivate fireplace mode for 15 min. (FP15)
	Press RIGHT for 10 seconds = activate/deactivate installer menu / installation mode. (only for trained users/installers)
	Press CENTER + UP for 10 seconds = back to factory setting of all settings and setpoints. (Only works in the installer menu)
	Press LEFT for 10 seconds = reset pairing

Continued overleaf

User menu, *continued*

Operation programs On the remote control you can choose among different operation modes allowing you to control the ventilation in accordance with different demands.

Symbol	Description
	Demand-control In AUTO mode the unit adjusts automatically between fan step 1 - 3, so that the air change matches the actual demand in the house. The unit tries to maintain a comfortable air quality, measured in relation to the relative humidity and the CO_2 level (CO_2 control is accessory). In case of high humidity in the air the ventilation demand is increased and the unit adjusts to fan step 3. In case of low humidity the unit goes down to fan step 1. The CO_2 control adjusts the unit to step 4 in case of a high CO_2 level.
	Manual operation In Manual mode the user must adjust the fan step manually each time the air change requirement changes. Fan steps from 0 to 4 are available. Step 0 and 4 are only active for 4 hours, after that time the unit returns automatically to step 3.
	Week program In Week program mode the unit supplies a variable air exchange which is adapted to the selected family profile (P1, P2, P3 etc.) See the list at the back of this manual. The week program number is changed in the following way:

Step	Action
1	When the week program icon is activated (the symbol flashes) the actual week program number is shown below the clock.
2	Press DOWN, and the chosen week program No. flashes (for example P1)
3	Press UP/DOWN to choose another week program No. and finally press CENTER to confirm the new week program No.

	AWAY The AWAY mode can be activated in periods where the house is unoccupied and when there are no activities requiring air change. In AWAY mode the unit runs at minimum air change, i.e. 2/3 of the time at fan step 1 and 1/3 of the time at fan step 0. All other functions are working normally incl. heating and cooling coils, if connected. To deactivate this function press CENTER, otherwise it deactivates automatically after 28 days and it automatically goes back to the previous operation mode. **Warning!** ***Remember to deactivate the AWAY mode as soon as the house is occupied again. Otherwise the house may be damaged as well as comfort for the people is compromised.***

Night mode

In Night mode the unit runs at fan step 1, and this mode functions together with Auto, Manual or Week program mode.

Start and end time for night mode are set in the following way:

Step	Action
1	When night mode is activated (symbol flashes) press DOWN and the start time is shown in the info line (flashes).
2	Set start time by pressing UP/DOWN, confirm by pressing CENTER, and then the end time is shown in the info line.
3	Set the end time by pressing UP/DOWN, confirm by pressing CENTER. The start and stop time for night mode are now set.

Night mode is deactivated by pressing CENTER, while the icon is flashing.

Afterheating

If afterheating is connected (accessory) it can be adjusted in accordance with one or more of the following 3 principles:

T2) Afterheating for comfort supply air:

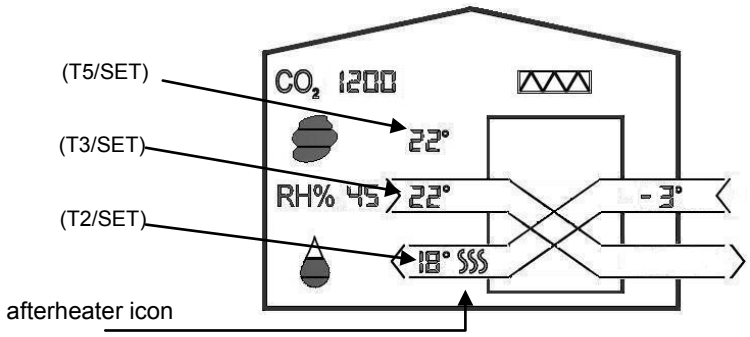
If afterheating is only required to prevent supply of cold air or draught inconvenience, the T2 supply air temperature can be used as setpoint and regulation temperature. (Factory setting +18°C)

T3) Afterheating for heating of the house:

If afterheating is used as primary heat source for the whole house, T3 extract air temperature can be used as setpoint and regulation temperature. (Factory setting = OF, meaning that heating is not regulated after this setpoint)

T5) Afterheating for heating of the house or rooms:

If afterheating is used as primary heat source for the whole house and/or specific rooms, T5 temperature measured in the remote control can be used as regulating temperature in the room where it is placed. (More remote controls can be connected) (Factory setting = OF, meaning that heating is not regulated after this setpoint)



NB: If all three afterheater setpoints are “OF” the afterheater is OFF.

Follow this procedure to set the afterheater setpoints:

Step	Action
1	Activate the menu line by pressing CENTER
2	Press RIGHT to navigate to afterheater icon. The afterheater icon flashes slowly (30/min). Simultaneously T2, T3 and T5 continue to show the real temperatures in the unit.
3	Press CENTER to navigate to the AFTERHEATER menu. The display shows the latest settings of all three setpoints (T2, T3, T5) on their respective places. OFF means that the afterheater is not controlled in accordance with this setpoint.
4	Press CENTER. The afterheater setpoint for T2 flashes quickly (120/min), and the afterheater icon flashes.
5	Press UP/DOWN to set the afterheater setpoint T2, and confirm by pressing CENTER.
6	T3 afterheater setpoint now flashes quickly (120/min) and the afterheater icon flashes. Press UP/DOWN to set the afterheater setpoint T3, and confirm by pressing CENTER.
7	T5 afterheater setpoint now flashes quickly (120/min) and the afterheater icon flashes. Press UP/DOWN to set the afterheater setpoint T5, and confirm by pressing CENTER.
8	The afterheater setpoints are now set and the afterheater icon on the display flashes slowly (30/min) and all temperatures on the display are again real measurements in the unit.
9	Press CENTER for 3 seconds to leave the menu.

Clock

Week programs and night mode are controlled by means of the clock. The clock is set as follows:

Step	Action
1	Press CENTER to activate the menu line (the active operation mode flashes)
2	Press the RIGHT button until the hands of the clock are flashing.
3	Press DOWN and then UP/DOWN to set the time. Confirm by pressing CENTER, then the week day icon flashes
4	Set the week day by pressing UP/DOWN, and confirm by pressing CENTER

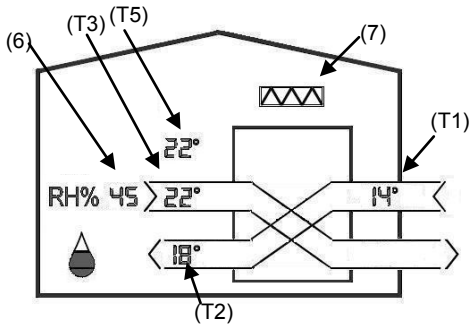
Fire-place function **FP**	**Fireplace function** The fireplace function is designed to create overpressure in the house, so that the fireplace can be lit without problems. The overpressure is created by stopping the extraction and maintaining the supply at fan step 3. The function is activated/deactivated by pressing UP for 5 seconds, then FP15 is shown in the INFO LINE = fireplace mode for 15 min. It now counts down (FP14…FP01) till 15 minutes have passed, and then the unit returns to the previous operation mode. **Please notice!** Supply air temperature (T2) gets equal to the outdoor temperature (T1), while in FP mode as the heat recovery is temporarily out of operation. The fireplace function cannot be activated if outdoor temperature (T1) is lower than -13°C. This can be solved by a preheater (accessory).
Bypass-cooling	**AUTOMATIC BYPASS-COOLING** The built-in AUTOMATIC BYPASS-COOLING mode is used during summer time when the outdoor temperature is higher than 15°C, as long as it is lover than inside air temperature. This means it is not necessary to activate the MANUAL BYPASS-COOLING during this period. The setpoints for AUTOMATIC BYPASS-COOLING can be adjusted if needed in the INSTALLER MENU. **MANUAL BYPASS-COOLING (BYP6)** The MANUAL BYPASS-COOLING mode can be useful if cooling is needed in the spring or autumn (when the outdoor temperature is below 15°C) instead of using the heat recovery function. MANUAL BYPASS-COOLING is activated by pressing DOWN for 5 sec. and the display will shows BYP6 and the unit will be cooling for 6 hours. After the 6 hours the unit returns to heat exchanger mode with AUTOMATIC BYPASS-COOLING. **Please notice!** Only when the conditions for BYPASS-COOLING mode are actually present the display will show parallel air channels (no heat recovery) and the BYPASS-COOLING damper opens.

Operating information, without accessories.

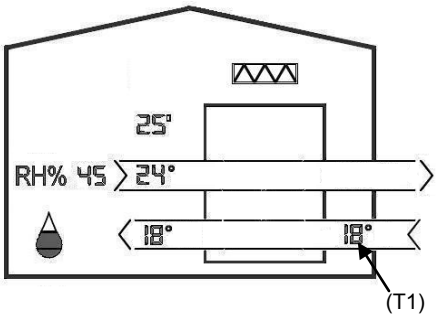
Operating information

The display shows various operating information according to the actual operation mode. Two different screens are shown, depending on whether the unit is running in HEAT RECOVERY MODE or BYPASS-COOLING mode.

Heat recovery/ bypass-cooling



HEAT RECOVERY MODE



BYPASS-COOLING MODE

The unit always runs in heat RECOVERY MODE, (crossing air channels on the display), unless the conditions for BYPASS-COOLING MODE are present (parallel air channels on the display).
Please notice that RECOVERY MODE is used for heat recovery as well as for cooling recovery.

Symbol	Description
(T1)	Outdoor temperature, measured in the outdoor duct of the unit.
(T2)	Supply air temperature, measured in the supply air duct of the unit.
(T3)	Extract air temperature, measured in the extract air duct of the unit.
(T5)	Room air temperature, measured in the remote control.

(6)

RH% 45

Relative humidity in the room:
The filling up of the drop symbol indicates whether the relative humidity in the house is within a comfortable area for the people and the home.

Symbol	Rel. hum. %	Description
	< 24	Very dry air, fan step 1
	25 – 34	Dry air, fan step 1
	35 – 45 46 – 65	Comfort air, fan step 1-3 Comfort air, fan step 3
	> 66	Humid air, fan step 3

Unit must be in AUTO mode in order to regulate in accordance with RH%.

(7)

Filter:

The number of black triangles in the filter symbol indicates how much of the filter lifetime has been used. When all triangles are filled, and the filter symbol flashes it is time to replace the filters.

The filter alarm can be muted for 14 days by pressing any key of the remote control.

Factory setting for filter change is 180 days. The filter change interval must be adapted to each individual house, how it is used and the quality of the outside air.

Follow this procedure to see the remaining FILTER TIME and/or change the FILTER PERIOD:

Step	Action
1	Press CENTER to activate the OPERATION PROGRAM MENU
2	Press RIGHT until the filter icon flashes. The INFO-LINE shows e.g. -25 meaning there is 25 days left before the filter has to be changed.
2	Press DOWN and FILTER PERIOD will flash, e.g. 180 which means 180 days between filter change.
3	Press UP/DOWN to change the FILTER PERIOD and confirm by pressing CENTER

Info-line (Under the clock)

Information about alarms, various settings and battery level are shown in the INFO-LINE.

Symbol	Description
⚠	If the ALARM icon is displayed, there is a failure on the unit, and the defect component is flashed. At the same time an alarm code is shown in the INFO-LINE (e.g. E2). This code is described in the alarm code list in the appendix. For a further description of how to correct any failure in the ventilation unit please see the installation manual for this.
88:88	This gives information about time setting, week program, alarms etc. Display / Description: A1 — AUTO program A1 is chosen. P1, P2… — Week program No. BYP6, … — Manual bypass-cooling is activated, 6 hours FP15, FP14… — Fireplace function is activated, 15 minutes DEF — Defrost-function, prevents icing up of the heat exchanger E1, E2… — Alarm code
🔋	Low battery level in the remote control

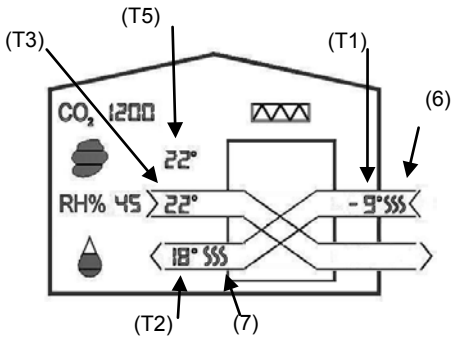
Fan speed

The four oval fields indicate the actual fan step. The more oval symbols are black, the more air is changed in the house.

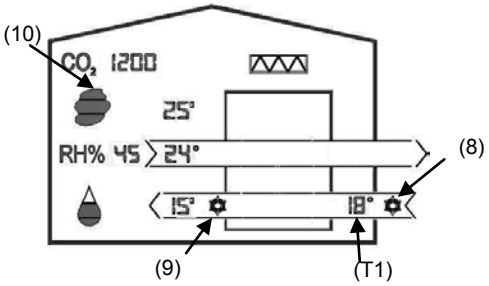
Operation information, with accessories

Operating information

Various operating information is shown on the display depending on the actual operation mode of the unit and the accessories which are in operation. Two different screens are shown on the display depending on whether the unit is in heat RECOVERY mode or BYPASS-COOLING mode.



Unit in heat recovery mode with pre- and afterheater



Unit in bypass-cooling mode with pre- and aftercooler

General

The unit will always run in HEAT RECOVERY mode, (crossing air channels on the display), unless the conditions for BYPASS-COOLING (parallel air channels) operation are present.
If pre- or aftercooling is connected the cooler icons will be shown when the coolers are in operation.
Pre-/aftercoolers are controlled by the same setpoints as the built-in BYPASS-COOLING function. I.e. cooling and bypass are always in operation at the same time.
If an aftercooler is connected it is also used together with "cooling recovery mode" in case that the outdoor temperature (T1) is higher than the extract temperature (T3)

Symbol	Description:
(T1)	Outdoor temperature measured in the unit, after preheater/-cooler, if any.
(T2)	Supply air temperature measured in the supply air duct after the after heater/cooler, if installed.
(T3)	Extract air temperature measured in the exhaust air duct.
(T5)	Room temperature measured with a sensor placed in the remote control.
(6)	Pre-heater icon
(7)	After-heater icon
(8)	Pre-cooler icon
(9)	After-cooler icon

(10)

CO_2 control:
If a CO_2-sensor (accessory) is connected and the unit is set to AUTO mode the airflow is controlled by the CO_2-concentration in the room where the CO_2-sensor is placed.

In AUTO mode the unit is controlled by the CO_2, and the RH% at the same time.

The control strategy for CO_2 control is as follows:

Symbol	CO_2 ppm	Description
	< 600	Clean air, fan step 1
	600 – 850	Clean air, fan step 1-2
	850-1100 1100-1200	Reasonable air quality, fan step 2-3 Reasonable air quality, fan step 3
	1200-1600 > 1600	Slightly polluted air, fan step 3 Polluted air, fan step 4

Installer menu / installer mode

Introduction

The installer menu is dedicated to skilled/experienced installers and service technicians who have a thorough knowledge of ventilation plants.
The purpose of the INSTALLER MENU/MODE is to put the unit in a state where the installer can adjust the nominal air volume (fan step 3), without other functions or temperatures of the unit preventing it. I.e. as long as the unit is in INSTALLER MODE fan step 3 is maintained.

Warning:

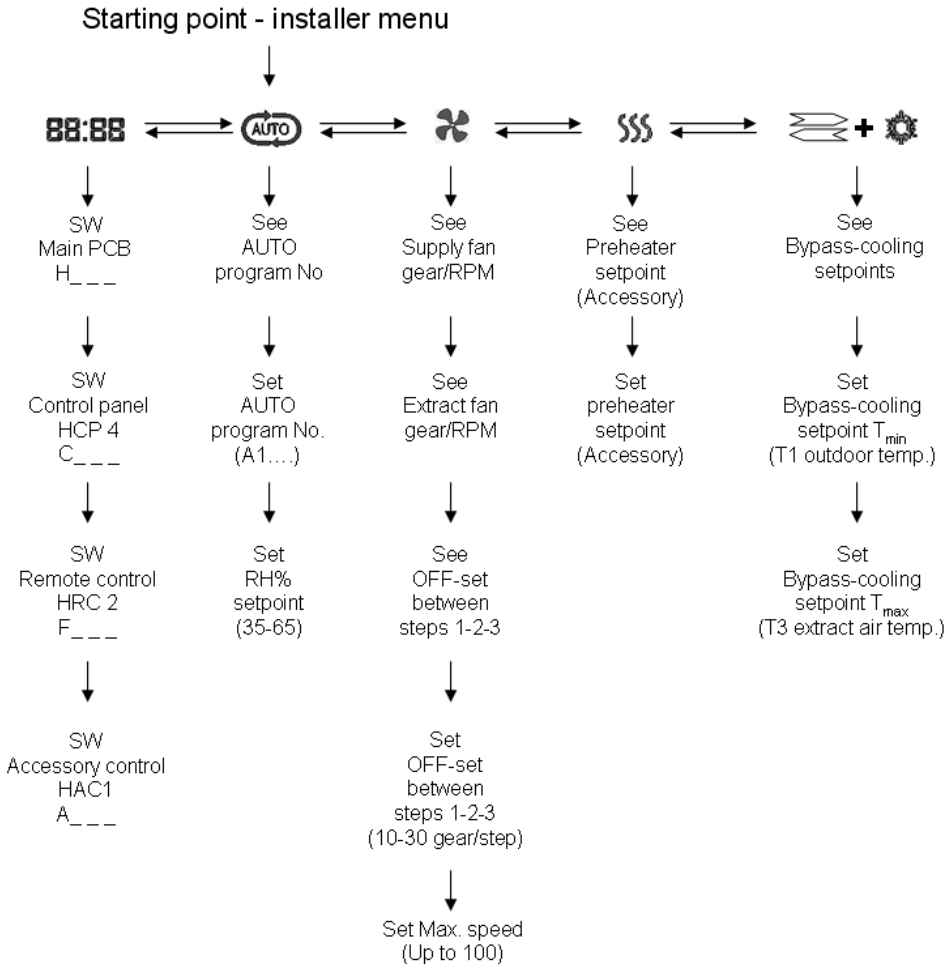
Dantherm Air Handling A/S disclaims any responsibility if the unit is installed in a way that has a negative influence either on the heat consumption in the house, or the indoor climate or if the unit is installed in such a way that the building, the building structure and the furniture are damaged.

Start Installer menu/mode

Press RIGHT for 10 sec. to activate the installer menu, until the ventilation unit icon on the display is flashing slowly. The installer menu can also be activated by pressing MANUAL and AUTO on the unit's control panel for 10 sec.
The installer menu will be active for 60 minutes or until the same button is pressed again.

Installer menu

Following menus and operating information are available in the installer menu:


Starting point - installer menu
88:88
AUTO
SW Main PCB H_ _ _
See AUTO program No
See Supply fan gear/RPM
See Preheater setpoint (Accessory)
See Bypass-cooling setpoints
SW Control panel HCP 4 C_ _ _
Set AUTO program No. (A1....)
See Extract fan gear/RPM
Set preheater setpoint (Accessory)
Set Bypass-cooling setpoint T_{min} (T1 outdoor temp.)
SW Remote control HRC 2 F_ _ _
Set RH% setpoint (35-65)
See OFF-set between steps 1-2-3
Set Bypass-cooling setpoint T_{max} (T3 extract air temp.)
SW Accessory control HAC1 A_ _ _
Set OFF-set between steps 1-2-3 (10-30 gear/step)
Set Max. speed (Up to 100)

SW view

The following SW information can be viewed in the INFO LINE in the installer menu.
H101* = SW in Main control which is placed in the ventilation unit
C101* = SW in the control panel (HCP4)
F101*= SW in the remote control (HRC 2)
A101*= SW in the accessory control (HAC 1)
* SW examples.

AUTO setting

In AUTO menu you can select the desired AUTO programs. (A1..)

RH% Set point

In AUTO menu, the RH% setpoint for demand-control can be set. The RH% setpoint belongs to the selected AUTO program No.

Warning:

If the RH% setpoint is set too low it may result in inconvenience for the occupants of the house and materials in the house may dry up. Likewise a too high setpoint may result in damp and mould in the building structure and the furniture.

Follow this procedure to change the RH set point:

Step	Action
1	Press RIGHT for 10 sec., till the installer menu is activated (ventilation unit icon is flashing)
2	Press CENTER, previous AUTO program flashes
3	Press CENTER, previous RH% set point flashes
4	Press UP/DOWN in order to adjust RH% set point
5	Press CENTER to confirm the new set point and close
6	Press RIGHT for 10 sec. till the installer menu closes. (Ventilation unit icon stops flashing)

Fan settings

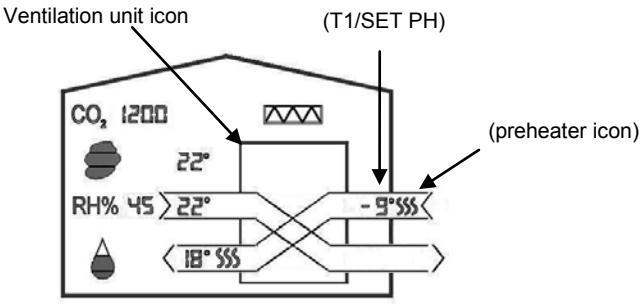
Following readings can be seen/adjusted in the fan menu:

- Actual fan-gear (Potentiometer setting on the control panel)
- Fan rpm
- Difference between fans steps 1 - 2 and 3 (Called OFSE)
- Max gear on fan step 4

Step	Action
1	Press RIGHT for 10 sec., until the installer menu is activated (icon for ventilation unit is flashing)
2	Press RIGHT till the fan icon is flashing. The supply air duct and the fan icon are now flashing simultaneously, while gear and rpm for supply air fan are shown by turns in the INFO-LINE.
3	Press DOWN and the exhaust air duct is flashing simultaneously with the fan icon. The exhaust air duct and the fan icon are now flashing while gear and rpm for exhaust fan are shown by turns in the INFO-LINE.
4	Press DOWN and the INFO-LINE flashes slowly with actual “FAN SPEED OFSET” by writing e.g. ”OFSE” / ”25” respectively, meaning there are 25 gears between respectively fan steps 1 → 2 and 2 → 3.
5	Press CENTER and then the ofset value flashes quickly (120/min) together with fan step 3.
6	Press UP/DOWN to adjust the OFSET value. (The bigger OFSET value the slower the unit runs in step 2 and 1)
7	Press CENTER and MAX VENTILATOR GEAR on fan step 4 will flash in the INFO LINE and at the same time the step 4 icon flashes on the display.
8	Press UP/DOWN to adjust MAX gear on step 4 and confirm by pressing CENTER.

Preheater setpoints

If afterheating is connected, the icon will appear on the display when the heater is on. Furthermore the setpoints for preheat can be seen/changed in the installer menu.



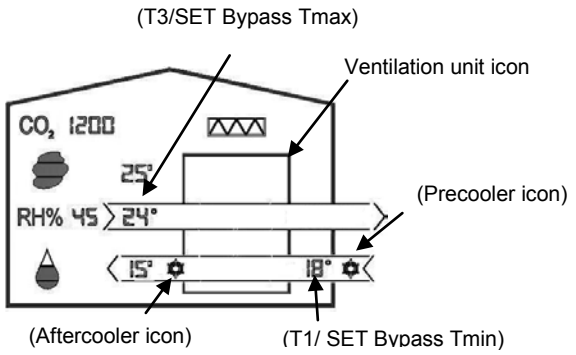
UNIT IN HEAT RECOVERY MODE

The setpoint for electric afterheating is adjusted as described below.
(If GTC (geothermal collector) is connected, it will be permanently set to heat if the outside temperature (T1) < 0°C).

Step	Action
1	Press the RIGHT button for 10 sec., until the installer menu is activated (the icon for the ventilation unit is flashing)
2	Press the RIGHT button till the preheater icon in the outdoor air duct (T1) flashes slowly.
3	Press the CENTER button and the preheater icon flashes quickly together with the previously preheater setpoint (T1/SET PH).
4	Press UP/DOWN to change the preheater setpoint and confirm by pressing CENTER. If the setpoint is "OF" the preheating will always be switched off.
5	Press RIGHT for 10 sec. until the installer menu is closed. (the icon for the ventilation unit stops flashing)

BYPASS-COOLING setpoints

In BYPASS-COOLING operation the air channels are parallel through the unit (no heat recovery). If pre-/aftercooling is connected, the icons for these components will be shown when they are in operation only.
In the installer menu you can see/change the setpoints for BYPASS-COOLING on the locations shown below.



Unit in bypass-cooling mode

T1/SET Bypass Tmin = Minimum outdoor temperature, where BYPASS-COOLING can start.
T3/SET Bypass Tmax = Minimum extract air temperature, where BYPASS-COOLING can start.
The setpoint for supply air temperature (T2) in connection with aftercooling is identical with the T1/SET bypass Tmin.

BYPASS-COOLING strategy

If Pre-/aftercooling coils are installed they are controlled by the same setpoints and control strategy as the built-in BYPASS-COOLING function. I.e. Pre-/aftercooling and bypass are always switched on at the same time.
If Aftercooling is installed it will be used together with "cooling recovery mode" if the outdoor temperature (T1) is higher than the extract air temperature (T3).
The setpoint for AUTOMATIC BYPASS-COOLING can be adjusted as follows:

Step	Action
1	Press RIGHT for 10 sec., until the installer menu is active (the ventilation unit icon is flashing)
2	Press RIGHT until the BYPASS-COOLING icon (parallel air channels on the display) flashes slowly. NB. The display shows the actual temperatures in all fields.
3	Press CENTER and the actual setpoints for BYPASS-COOLING are shown on the T1 and T3 places.
4	Press CENTER and the setpoint for T1/SET bypass Tmin will flash quickly, together with the icons for pre-/aftercoolers if any is installed.
5	Press UP/DOWN to change the setpoint for T1/ SET bypass Tmin, and confirm by pressing CENTER.
6	The setpoint for T3/Bypass Tmax will now flash quickly together with the icons for pre-/aftercoolers if any is installed.
7	Press UP/DOWN to change the setpoint for T3/ SET bypass Tmax and confirm by pressing CENTER. If set point is set to "OF" the BYPASS-COOLING permanent switched off.
8	Press RIGHT for 10 sec. until the installer menu closes (the ventilation unit icon stops flashing)

Setpoints

Setpoints and factory settings are as follows:

Description	Factory setting	Min	Max
AUTO Demand-control (RH%)	45%	35%	65%
Automatic BYPASS-COOLING			
Bypass Tmin (Outdoor temperature (T1))	15°C	8 °C	15 °C
Bypass Tmax Extract air temperature (T3)	24	22/OF	30 °C
Afterheater (Electrical or water based)			
Supply air temperature (T2)	18 °C	10/OF	35 °C
Extract air temperature (T3)	OF	15 °C	30 °C
Room temperature (T5)	OF	15 °C	30 °C
Preheater			
T1/SET PHE (Electric preheater)	-2 °C	-2/OF	-10 °C
T1/SET GTC (Geothermal preheat)	0 °C	0 °C	0 °C
Fan settings			
Fan OFSET (gear between respectively steps 1 → 2 and 2 → 3)	25 gears	10 gears	30 gears
MAX FAN speed (Step 4)	100%	As step 3	100%
Filter change interval			
Filter period	180 days	90 days	360 days

Back to factory settings

When the INSTALLER MENU is active the unit can be set “BACK TO FACTORY SETTING” by pressing UP and CENTER simultaneously for 10 sec.

Appendix

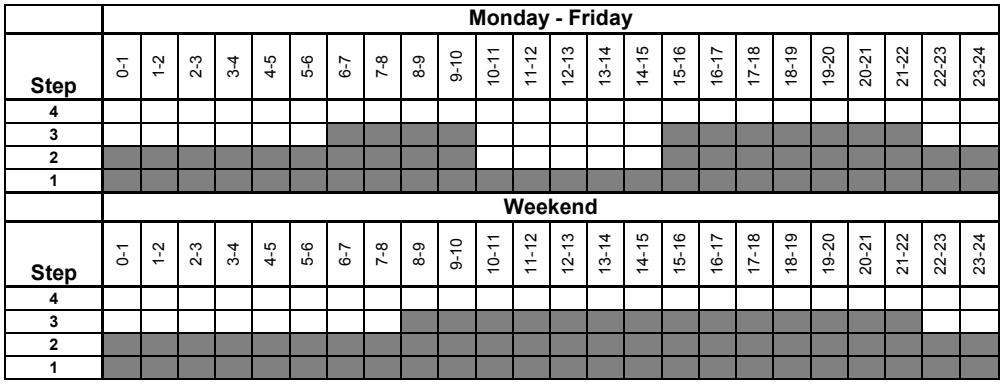
Alarm codes

Code	Alarm / Errors
E 1	Exhaust air fan
E 2	Supply air fan
E 3	By-pass damper
E 4	Extract air temperature sensor (T1)
E 5	Supply air temperature sensor (T2)
E 6	Extract air temperature sensor (T3)
E 7	Exhaust air temperature sensor (T4)
E 8	Room air temperature sensor (T5)
E 9	Humidity sensor (RH), placed in the extract air duct of the unit.
E 10	Outdoor temperature < -13 °C
E 11	Supply temperature < +5 °C
E 12	Fire alarm, a sensor in the unit is measuring a temperature > 70 °C.
E 13	Communication error / low signal
E 14	Fire alarm, duct connected fire thermostat (Accessory)

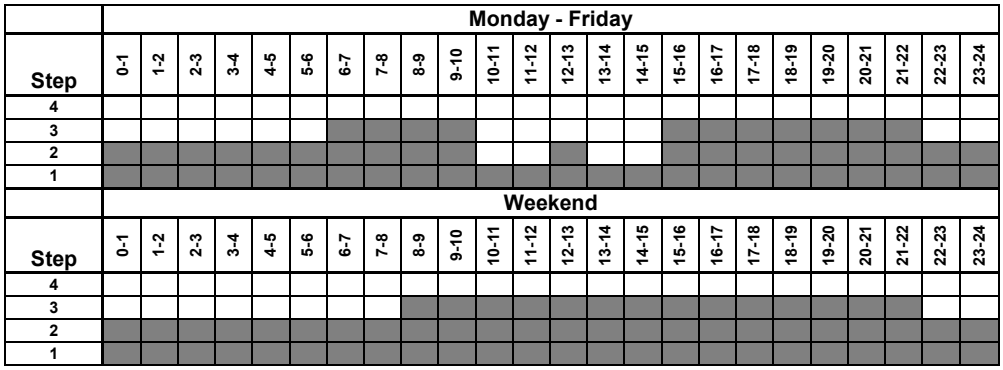
Week programs

Code	Week program
P 1	Family with kids, both parents work outside the home during the day
P 2	Family with kids, one parent works outside the home during the day
P 3	Family with kids, both parents spend their day in the home
P 4	Small family/couple without kids, both work outside the home during the day
P 5	Small family/couple without kids, both work outside the home at night
P 6	Small family/couple without kids, both work at night during the weekend
P 7	Single person, works outside the home during the day
P 8	Single person, works outside the home at night
P 9	Single person, works outside the home during the weekend
P 10	Single person, always at home
P 11	Office
P 12	Institutions / daycare centre / kindergarten (24/7)

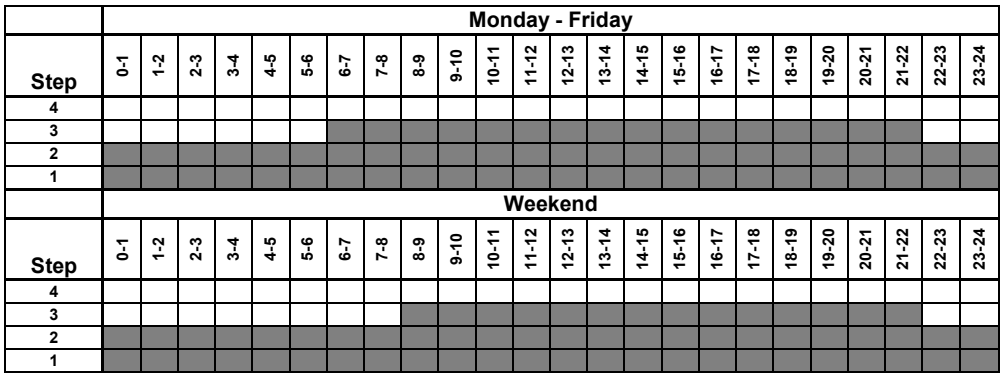
P1 – Week program



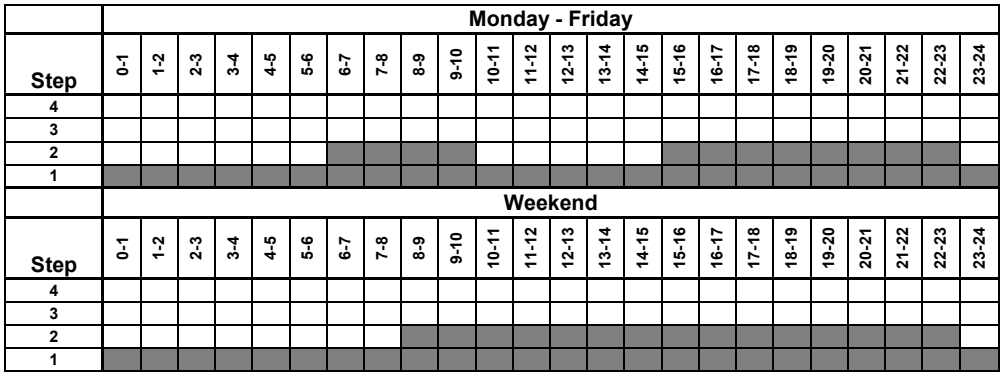
P2 – Week program



P3 – Week program



P4 – Week program



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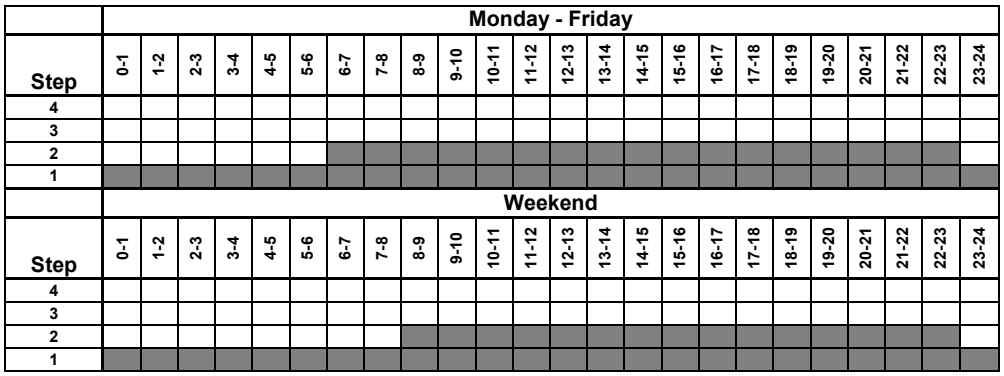
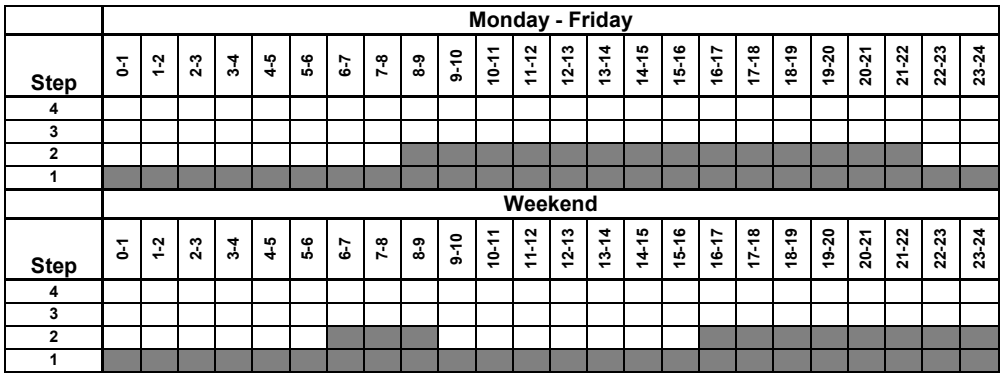
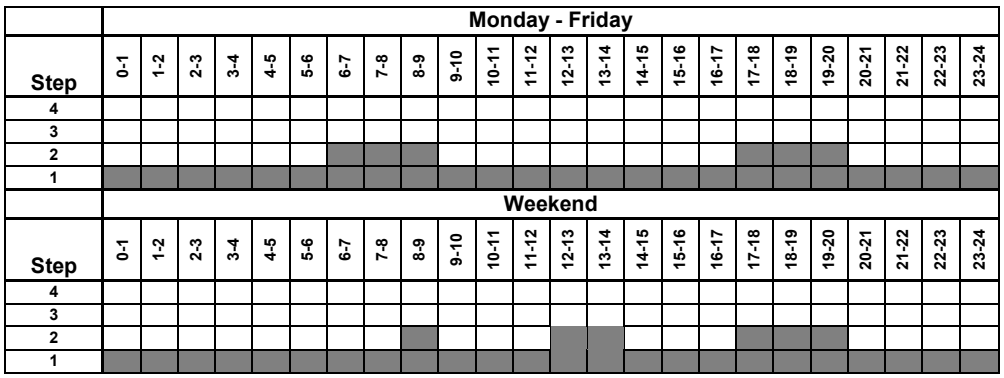
P5 – Week program



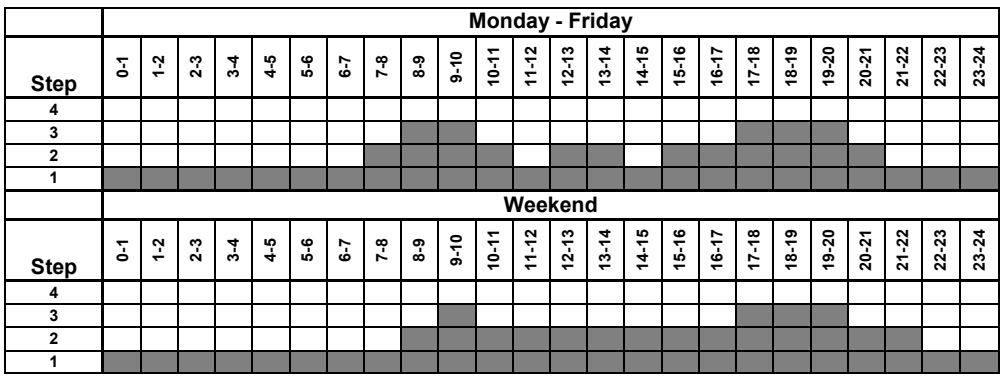
P6 – Week program



P7 – Week program



P8 – Week program



P9 – Week program

	Monday - Friday																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
3																								
2								■	■				■	■				■	■	■	■			
1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Weekend																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
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2							■	■	■									■	■	■	■			
1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P10 – Week program

	Monday - Friday																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
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1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Weekend																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
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1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P11 – Week program

	Monday - Friday																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
3								■	■	■	■	■	■	■	■	■	■							
2								■	■	■	■	■	■	■	■	■	■							
1							■	■	■	■	■	■	■	■	■	■	■	■						
	Weekend																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
3																								
2																								
1																								

P12 – Week program

	Monday - Friday																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
4																								
3							■	■	■	■	■	■	■	■	■	■	■							
2							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Weekend																							
Step	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
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